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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------|------------------------|
| 10/620,363 | 07/17/2003 | Yasushi Abe | R2180.0161/P161 | 8922 |
| 24998 | 7590 | 05/01/2007 | | |
| DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403 | | | EXAMINER LEE, TOMMY D | |
| | | | ART UNIT 2625 | PAPER NUMBER |
| | | | MAIL DATE 05/01/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/620,363 | Applicant(s) ABE ET AL. | |
| | Examiner Thomas D. Lee | Art Unit 2625 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9, 11-25, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 6-8, 10 and 26 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>7/17/03</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 13-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

These claims recite functional descriptive material ("[a] computer-readable program") comprising computer programs or algorithms that impart functionality when employed as a computer component (i.e., executable code; becomes one with the computer, causes the computer to perform certain acts or functions). Functional descriptive material must be embodied on a *computer readable* medium to impart its functionality. See MPEP 2106.IV.B.1(a).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 27 and 28 each recite the limitation "[t]he computer-readable medium" in line 1. There is insufficient antecedent basis for this limitation in the claim. Note that claim 13, from which claims 27 and 28 depend, recites "[a] computer-readable *program* ... embodied on an *information storage* medium" (emphasis added). It would appear that claims 27 and 28 should be amended to depend from claim 21, which recites "[a] computer-readable medium."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5, 9, 11 and 12 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Publication 2003/0095272 (Nomizu).

Regarding claims 1-5, 9 and 11, Nomizu discloses an image-area separation apparatus comprising: a SIMD processor performing a SIMD process for performing an image-area separation process (paragraph 0244); and image-area separation means

for performing an image-separation operation according to the SIMD process performed by the SIMD processor, wherein the image-separation means is configured to image-separate the image data into a character portion and a figure portion (paragraphs 0249-0255, 0292, 0296-0304). The apparatus further comprises: a plurality of characteristic test means for performing a plurality of characteristic tests to determine whether the image data have specific characteristics, and comprehensive test means for determining a comprehensive test result according to the plurality of the characteristic test means performed by the plurality of test means, wherein said plurality of characteristic means includes characteristic test means configured to determine whether the image data include edge data (paragraphs 0249-0255) and dotted image data (paragraphs 0269-0273). The apparatus further comprises: a data converter for converting data using the data as an address stored in a register of a register file of said SIMD processor; and a data table converter connected to the SIMD processor for converting data of a data table using, as an address, data of a register provided to the SIMD processor, wherein said image-area separation apparatus performs the image-area separation operation by causing the SIMD processor to perform the SIMD process and the data table converter to perform a sequential operation (paragraph 0244).

Regarding claim 12, Nomizu discloses an image forming apparatus comprising: an image reading apparatus to read an image of an original image data (reading unit 21 (Fig. 3)); an image-area separation apparatus which processes the read image of the original image data said image-area separation apparatus comprising: a SIMD processor performing a SIMD process for performing an image-area separation process

(paragraph 0244), and image-area separation means for performing an image-separation operation according to the SIMD process performed by the SIMD processor (paragraphs 0249-0255, 0292, 0296-0304); an image-processing means for switching over contents of the image data in accordance with the result of the image-separation operation performed by the image-separation apparatus (paragraphs 0308-0309); and image forming means for forming an image onto a recording sheet in accordance with the image data read by the image reading apparatus (image forming unit 105 (Fig. 3)).

9. Claims 1-3 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,317,652 (Chatterjee).

Regarding claims 1-3 and 11, Chatterjee discloses an image-separation apparatus which processes the read image of the original image data, comprising: a SIMD processor performing a SIMD process for performing an image-area separation process (column 4, line 62 – column 5, line 3; column 5, lines 18-19); and image-area separation means for performing an image-separation operation according to the SIMD process performed by the SIMD processor, wherein the image-separation means is configured to image-separate the image data into a character portion and a figure portion (column 7, lines 28-49). The apparatus further comprises: a plurality of characteristic test means for performing a plurality of characteristic tests to determine whether the image data have specific characteristics, and comprehensive test means for determining a comprehensive test result according to the plurality of the characteristic test means performed by the plurality of test means (vector correlation step determines whether dots correlate to a character image (column 7, line 50 –

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column 8, line 5); analysis step determines whether correlated data corresponds to recognized characters (column 8, lines 6-11)).

10. Claims 1 and 11 rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,771,834 (Martins et al., hereinafter Martins).

Regarding claims 1 and 11, Martins discloses an image-separation apparatus which processes the read image of the original image data, comprising: a SIMD processor performing a SIMD process for performing an image-area separation process (column 9, lines 16-28); and image-area separation means for performing an image-separation operation according to the SIMD process performed by the SIMD processor (column 9, lines 28-35).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 12-15 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chatterjee.

Regarding claim 12, Chatterjee recites an image forming apparatus comprising: an image reading apparatus to read an image of an original image data (column 7, line 10); an image-area separation apparatus which processes the read image of the original image data, said image-area separation apparatus comprising: a SIMD processor performing a SIMD process for performing an image-area separation process (column 4, line 62 – column 5, line 3; column 5, lines 18-19), and image-area separation means for performing an image-separation operation according to the SIMD process performed by the SIMD processor (column 7, lines 28-49); an image-processing means for switching over contents of the image data in accordance with the result of the image-separation operation performed by the image-separation apparatus (column 7, line 50 – column 8, line 9); and image forming means for forming an image in accordance with the image data read by the image reading apparatus (column 8, lines 9-11).

While Chatterjee does not expressly disclose forming an image onto a recording sheet, it is well known in the art that images that are displayable on a monitor are also displayable as a printed image on a recording sheet. It would have been obvious for one of ordinary skill in the art to modify the teaching of Chatterjee by providing a printer for outputting the processed image onto a sheet of paper, so that a hard copy of the processed image may be obtained, if desired by a user.

Claims 13-15 and 21-23 recite a computer-readable program or computer-readable medium comprising the limitations of above-rejected claims 1-3. While not expressly disclosed in Chatterjee, it is well known in the art to provide means within an image processing apparatus, such as internal ROM, or external means, such as CD-ROM, storing programs for enabling the image processing apparatus or computer to perform image-processing tasks, in general. It would have been obvious for one of ordinary skill in the art to provide a computer-readable program or computer-readable medium for performing the image-segmentation steps disclosed in Chatterjee, so that such steps may be conveniently performed on a computer.

14. Claims 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martins, and claims 13-17, 19, 21-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nomizu.

As mentioned above, it is well known in the art to provide means within an image processing apparatus, such as internal ROM, or external means, such as CD-ROM, storing programs for enabling the image processing apparatus or computer to perform image-processing tasks, in general. As with Chatterjee, while neither Martins nor Nomizu expressly disclose a computer-readable program or computer-readable medium, it would have been obvious for one of ordinary skill in the art to provide a computer-readable program or computer-readable medium for performing the image-segmentation steps disclosed in Martins or Nomizu, so that such steps may be conveniently performed on a computer.

Allowable Subject Matter

15. Claims 6-8, 10 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to disclose or suggest an image-area separation apparatus as defined in claim 3, "wherein said plurality of the characteristic means includes characteristic test means configured to determine whether the image data include line screen image data," as recited in claim 6, (claim 26, which depends from claim 23, similarly recites this limitation), or "wherein the comprehensive test means determines that the image data include the character portion when the edge test means determines the image data include at least one edge component and when the dotted image test means determines that the image data include no dotted image component, and determines that the image data include the figure portion when at least one of two events occurs in which the edge test means determines that the image data include no edge component and in which the dotted image test means determines that the image data include one of at least dotted components," as recited in claim 7, or "wherein the comprehensive test means determines that the image data include the character portion when the edge test means determines the image data include at least one edge component; the dotted image test means determines that the image data include no dotted image component; and the line screen test means determines that the image data include no line screen; and wherein the comprehensive test means determines that

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the image data include the figure portion when at least one of the following three events occur: the edge test means determines that the image data include no edge component; the dotted image test means determines that the image data include one of at least dotted components; and the line screen test means determines that the image data include at least one of line screen components," as recited in claim 8; or an image-area separation apparatus as defined in claim 9, "wherein the image-area separation means is configured to require intermediate data in the SIMD process and to perform the sequential operation for the intermediate data," as recited in claim 10.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (571) 272-7436. The examiner can normally be reached on Monday-Friday, 7:30-5:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thomas D Lee
Primary Examiner
Technology Division 2625

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April 25, 2007